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The focus of inquiry in educational research on teaching is shifting from what should happen in the classroom to what does happen. Teaching activities are being observed and described because other research methods, which serach for what is "good" in teaching, have not yielded many discoveries or intellectually substantial information about a profession that is central in human affairs. Descriptive research has primarily confined itself, however, to the public interactive moments of teaching while neglecting the more private moments that illuminate the teaching process and pertain as much if not more than the public to conceptualization of the teaching task, justification of teacher-training requirements, and teacher evaluation. Private moments include preparing for the classroom (preactive teaching) and working with students individually either when other students are present but separately occupied (semi-private teaching) or when alone (private teaching). If we look at what teaching really is, we might find that the teacher's actual goal is student involvement rather than learning (hoped for as a by-product, however), and that the teacher's chief contribution to learning (what the student "gets") is choosing the best activity for a student. (A five-item reference list is included.) (LP)

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THE WAY TEACHING IS

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To speak before a group such as this about the process of teaching is truly to bring coals to Newcastle—a foolishly superfluous activity, at best. And yet it is a flattering assignment, or so I thought when I first received the invitation. As time went by, however, I began to have some doubts.

While I was being briefed for the job a member of the planning committee remarked that they did not want a speaker who would drone on about his own research. I agreed that this would be bad, but then as I began to think about it I came to realize that the main reason I am addressing you this morning, rather than vice versa, is that your planning committee believes I am the only one at the conference who has not done enough research to talk about for 45 minutes!

And the painful part is that their judgment is disturbingly accurate. Certainly the aspects of teaching in which I have attempted even the crudest sort of empirical foray are minuscule

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in proportion to those about which I have absolutely no firsthand knowledge. So it is with a mind uncluttered by data, with ideas unbounded by evidence, and with opinion unsullied by fact that I speak to the audacious title, "The Way Teaching Is." If this audacity offends you, don't blame me, that's the way your planning committee wanted it.

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Teaching, characteristically, is a moral enterprise. The teacher (whether he admits it or not) is out to improve things, to make the world a better place and its inhabitants better people. He may not succeed, of course, but his intention, nonetheless, is to benefit others.

Given the teacher's moral stance and the social significance of his work, it is not surprising to find that educational researchers for years have focused chiefly on the improvement of teaching—through attempts to identify the characteristics of good teachers or good methods—rather than on a description of the process as it commonly occurs in classrooms. Although they are a few steps removed from the arena of direct social action—"the firing line," as practitioners sometimes call it—researchers, like teachers, are often stirred by altruistic motives. They too, by and large, are men of good intent who want to perform a useful service.

But the moral cast of educational research—its concern with "good" teachers and "good" methods—seems to be changing slightly. In several of the more recent studies of teaching, and in some of the work-in-progress with which I am familiar, I detect a subtle but significant shift away from the prevailing focus of inquiry in education. In the work of such people as Roger Barker and Paul Gump at the University of Kansas, Arno Bellack at Teachers College, Bryce Hudgins at Washington University, Jack Kounin at Wayne State, B. O. Smith at the University of Illinois, and in some of the things we are doing at Chicago, the researcher's concern with what actually happens in classrooms is much stronger than is his concern with what ought to be happening.

No doubt there are several reasons for the shift, but two of them deserve special mention. First is the lamentable, but undeniable, fact that our search for the good just doesn't seem

to have paid off. Almost all of the noble crusades that have set out in search of the best teacher and the best method—or even the better teacher and the better method—have returned empty-handed. The few discoveries to date (it would be unfair—and, in front of this audience, imprudent as well—to deny that there have been any) are pitifully small in proportion to their cost in time and energy. For example, the few drops of knowledge that can be squeezed out of a half century of research on the personality characteristics of good teachers are so low in intellectual food value that it is almost embarrassing to discuss them. And the same thing can be said about much of the so-called "methods of research." Surely one of the factors involved in the recent shift to more descriptive studies is the sense of discouragement and disappointment that comes from reading the great bulk of the research literature on teaching.

A cautionary note is required here. The fact that some researchers seem to be chiefly interested in describing conditions as they are does not mean that they no longer care about what should be. The desire to improve things is still very much with us, and rightly so. But fresh approaches obviously are called for, and the practical benefits to be derived from "disinterested" scholarship have already been demonstrated in many other areas of inquiry. Accordingly, many investigators whose ultimate interest is the improvement of education but who believe in the value of an indirect approach have retired to the laboratory or the computation center; others of similar conviction have decided to remain in the classroom, or at least to leave their recording equipment there.

A second reason for just looking derives from the centrality of teaching in human affairs. Next to the family, the unit comprising the teacher and his students is one of the most pervasive social arrangements in our society. Anyone who is broadly interested in man and his characteristic activities must sooner or later turn to an examination of teaching. And when he does, he will find that very little is known about this everyday event. But, considering what we know about other common human situations, this lack of information is not too surprising. As Roger Barker commented recently,

> I read, for example, that potassium (K) ranks seventh in order of abundance of elements, and constitutes about 2.59 percent of

> the igneous rocks of the earth's crust; that its compounds are widely distributed in the primary rocks, the oceans, the soil, plants, and animals; and that soluble potassium salts are present in all fertile soils (Encyclopaedia Britannica, 1962). The fact that there is no equivalent information in the literature of scientific psychology (about playing, about laughing, about talking, about being valued and devalued, about conflict, about failure) confronts psychologists with a monumental incompleted task (p. 6).

Barker easily could have added teaching to the list of common activities about which we know little. Thus, the efforts of behavioral scientists to describe what goes on in the classroom without thought of changing things begin to look understandable, perhaps even laudable. The wonder, it turns out, is that so few are engaged in the sport. But things are bound to change. Indeed, someday teachers may even become as popular, as objects of study, as birds. Surely anyone who has tried to watch both kinds of creatures knows that the antics of the red-tufted woodpecker and his offspring are often dull in comparison with those of the low-heeled pencil-tapper and her brood of second graders.

The facts of educational life in which this new breed of teacher-watchers seems to be most interested can be described, staying with the same metaphor, as those occurring when the teacher is at her nest delivering the day's food to the young. In other words, they are interested in what goes on during teaching sessions, when teachers and students are face-to-face. An examination of these situations is doubtless important, even crucial, for our understanding of the educational process; these recurring group encounters are surely a vital part of school life. But it would be a mistake, conceptually, to view the teacher's behavior during class as representing all that is involved in the complex business of teaching. Teachers do many other things besides engaging in instructional interchanges with students, and these other activities are no less important to a total description of the process than are those that take place when the teacher has chalk in hand.

Those of us who observe in classrooms not only have tended to focus exclusively on the teaching session, we also, with few exceptions, have limited our gaze to sessions involving a teacher and several students. But again, although the teacher is charac-

teristically portrayed standing in front of an entire class, there are times when he works individually with a student, with or without the presence of others. The teacher's activity during these tête-à-tête sessions differs in several ways from his behavior in front of the entire group, but so far little is known about these differences.

A third characteristic of much of the descriptive work to date is that it begins and ends in the middle of a series of events. The social microcosm of the classroom has its own developmental history. Things do not just occur cyclically there; they evolve. Moreover, the evolution does not necessarily unfold at a fixed pace. Very important happenings often take place in a twinkling; many apparently trivial events endure for hours. Certain class sessions may be much more influential than others in giving shape to future meetings. Typically, however, observers try to avoid the unusual. We make a point of staying away during particularly eventful sessions, such as the first day of class or the day after an examination.

This caution has methodological advantages. It enables us to treat all the sessions we observe as comprising a homogeneous set, thus allowing events to be summed across sessions, variance reduced, and so on. But this advantage is gained at the cost of working with a very small, and very bland, sample from the total life history of a class.

The tendency of descriptive research to be focused on teaching sessions, with several students present, during periods of relative calm, is certainly understandable from the standpoint of both theory and practice. From a theoretical point of view, the group session, with its focus on an instructional task, is surely most representative of teaching as we know it today and, therefore, is a logical place to begin systematic study. From a practical point of view, the observer is usually more welcome during these sessions than at other times. When the teacher is alone, or when he is working with only one student, or when the class is in a bit of an uproar, visitors are not greeted too enthusiastically. It is during such times that the more intimate and private aspects of the teaching process take place, and we can't really blame the teacher if he should desire to protect this privacy, nor can we blame the investigator if he should decide to restrict his gaze to things that are easier or possibly less embarrassing to observe. No self-

respecting researcher wants to be treated like, or to consider himself, a voyeur.

Yet, we know from personal experience as teachers and from the brief glimpse occasionally afforded us as observers that things are different during these more private moments of teaching. In the remainder of the present paper I would like to speculate on the nature of some of these differences. My purpose for doing so is twofold. First, I wish simply to call attention to some of the gaps in our knowledge. Unless we are to argue for an unreasonably narrow definition of teaching, these lesser known aspects of the teacher's work must be considered a legitimate part of his professional activity. In the interests of complete knowledge we must be willing to examine everything a teacher does. Second, a glimpse at this "hidden" side of teaching may increase our understanding of some of the more visible and well-known features of the process. When the teacher's behavior in class is contrasted with his behavior in these other situations, there may emerge differences having implications for both research and practice.

When the teacher is alone in the classroom—before and after class, during recess, and the like—his behavior can be roughly classified into two categories: actions relevant to the task of teaching, and actions that are irrelevant. Among the irrelevant are activities such as taking a coffee break, writing a letter to a friend, making plans for a weekend party, and so forth. Many of these behaviors may be very necessary from the standpoint of restoring the teacher's strength so that he can go on with his work, but the content of the activity itself has nothing to do directly with teaching; hence, such activities will not concern us here.

The second category—behavior that is relevant to the teaching task—includes such things as preparing lesson plans, arranging furniture and equipment within the room, marking papers, studying test reports, reading sections of a textbook, thinking about the aberrant behavior of a particular student, and so forth. Indeed, these activities are so crucial to the teacher's performance during regular teaching sessions that they would seem to deserve the label, "preactive" teaching. Such a designation commands our attention and helps us to distinguish this class of

behavior from the "interactive" teaching activities that occur vis-à-vis the students.

One of the chief differences between preactive and interactive teaching behavior seems to be in the quality of the intellectual activity involved in each. Preactive behavior is more or less deliberative. Teachers, when grading exams, planning a lesson, or deciding what to do about a particularly difficult student, tend to ponder the matter, to weigh evidence, to hypothesize about the possible outcome of a certain action. During these moments teachers often resemble, albeit crudely, the stereotype of the problem solver, the decision maker, the hypothesis tester, the inquirer. At such times teaching looks like a highly rational process.

Now contrast this state of affairs with what happens when students enter the room. In the interactive setting the teacher's behavior is more or less spontaneous. When students are in front of him, and the fat is on the fire, so to speak, the teacher tends to do what he *feels* or *knows* is right rather than what he *thinks* is right. This is not to say, of course, that the teacher simply acts out his feelings in the classroom. Thought is surely involved when class is in session, but it is thought of quite a different order from that which occurs in an empty classroom.

There appear to be two major reasons for this shift. First, the students to some extent control what the teacher does. When they are present much of the teacher's behavior is in response to their requests and questions and could not have been planned in detail ahead of time. In effect, the students "tell" the teacher what to do, and he simply does it without much thought. Much that goes on during a teaching session (or, for that matter, during almost any kind of an interpersonal encounter) is predictable in a broad sense only; the specifics must be dealt with as they happen. Further, many of these specifics do not resemble problems in any real sense of the word and do not call for prolonged and involved thought. When a student asks a teacher to repeat a question, or to tell him the date of the final exam, or to spell a difficult word, the teacher usually complies with the student's request without pausing to ponder its deeper meaning or to weigh the pros and cons of a complex set of alternative actions.

A second reason for the shift in cognitive style between preactive and interactive teaching has to do with the rapidity of

events in the classroom. Precise figures are not yet available, but there is clear indication in the work of Bellack at Teachers College, Hudgins at Washington University, and our own work at Chicago that things happen rather quickly during a teaching session. Hudgins, for example, reports a rate of interaction between teacher and student that yields an extrapolated estimate of about 650 interchanges during a full day of teaching. My own observations of elementary teachers have indicated that the teacher typically changes the focus of his concern about 1,000 times daily. (The difference between the two estimates is partially accounted for by the fact that Hudgins did not count interchanges in which the teacher spoke to the entire group, whereas I did.) When the whole class is present many of these interchanges last for only a few seconds; rarely does one last uninterruptedly for more than one minute. If these figures stand up under present attempts at replication, they would seem to suggest that when the teacher is standing in front of students he doesn't have much time to think.

These differences in the teacher's behavior with and without students have relevance for matters such as the conceptualization of the teaching task, the justification for certain training requirements, and the identification of the criteria of good teaching. Within the present context, only a word can be said about each of these matters.

Lately it has become popular to think of the teacher's activity in terms that describe the problem solver or the hypothesis tester. Yet when such a model is applied no distinction is made between what we have called preactive and interactive teaching. As the models are sometimes applied they would lead us to think of the teacher as hypothesis-testing, or problem-solving, or decision-making, all day long. There may be some advantage in using these logical and highly rational models to describe the teacher's in-class activities, and there may even be some moments when the teacher feels like a decision maker in the interactive setting, but these moments, I would wager, are few and far between. It is possible, of course, to ignore the teacher's conscious feelings and to insist that whether he knows it or not the teacher is actually solving a thousand or so problems a day. But our conventional definition of problem solving is very much weakened when used in this way.

During the preactive phase of teaching, however, models of rational inquiry do seem to have considerable descriptive power. As the teacher goes about deciding what textbook to use, how to group the children for reading, or whether to notify Billy's parents of his poor performance in arithmetic, his behavior is at least analyzable in terms that describe the rational problem solver. At such moments concepts such as evidence, evaluation, prediction, and feedback have real meaning for understanding what the teacher is doing. It is doubtful that they have similar meaning in the interactive setting.

Another time at which the distinction between preactive and interactive teaching is helpful is when we attempt to justify certain teacher-training requirements. Educators are often hard put to demonstrate that a compulsory course, such as educational psychology, actually makes a difference in the quality of a student's teaching performance. The typical procedure, under these circumstances, is to search for the effects of the professional course in the interactive setting. But perhaps this is the wrong place to look. Perhaps the major contribution of courses such as educational psychology is to increase the wisdom or appropriateness of the teacher's preactive decisions. The choices the teacher makes with respect to the composition of his class, or the course content, or the timing of certain activities may never be clearly visible to the observer sitting in the back of the room, but these matters are no less a part of his work than is his "decision" to call on Sarah rather than Bill for an answer to a question in class.

Again it is necessary to point out that the distinctions being made here are not intended to suggest that the teacher merely "plays it by ear" when he steps in front of a class. Surely there are times when he must decide on his feet between alternative courses of action. But he often acts without the sensation of having made a decision, and the grounds on which he bases his interactive decisions are often quite different from those governing his preactive behavior. We've all heard exaggerated claims for psychology, or other subject matter areas, as being indispensable to the teacher's functioning in the classroom. Yet over a half century ago, William James reminded his audience in his famous *Talks to Teachers* that—

> To know psychology, therefore, is absolutely no guarantee that we shall be good teachers. To advance to that result, we must

> have an additional endowment altogether, *a happy tact and ingenuity to tell us what definite things to say and do when the pupil is before us.* That ingenuity in meeting and pursuing the pupil, that *tact for the concrete situation,* though they are the alpha and omega of the teacher's art, are things to which psychology cannot help us in the least (p. 9). [Italics added.]

The evaluation of teaching typically has focused on the teacher's classroom behavior. Preactive performance is usually considered only to the extent that it has left visible products in the classroom. At lower levels of schooling the observer might note such things as the variety of seating arrangements, well-planned bulletin boards, science displays at the back of the room, and so forth. At higher levels the signs of preactive teaching are less visible, and the observer, if he is to consider them at all, is forced to seek evidence with regard to the choice and sequencing of the course content, the appropriateness of class assignments, the speed with which exams are returned, the thoroughness of the teacher's comments on written assignments, and so forth. Some of the more omnibus observation schedules, such as the one designed by Cornell, Lindvall, and Saupe, have tried to get at selected indicators of preactive teaching behavior (without calling them that, of course), and a few studies, such as Page's well-known investigation of the effect of teacher comments on exam papers, have tried to relate such practices to conventional indicators of teaching effectiveness. For the most part, however, the emphasis in the bulk of the teacher evaluation studies has been on what the teacher does vis-à-vis the students.

The most well-known paradigm of the teacher at work is surely that legendary log hut containing the simple bench with Mark Hopkins at one end and a student at the other. But even when that scene was first described by President James Garfield it was offered as an image of what should be rather than of what is. Then as now, in most teaching situations the student's end of the bench is a bit more crowded than Garfield pictured it. Many classroom teachers do try to have some time alone with individual students, but characteristically the teacher-student dialogue is public rather than private. In addition to the public and private settings of teaching, with the latter being much less frequent than the former, there is a third arrangement which occurs in many elementary classrooms and which might be called "semi-

private." In this third situation the teacher works with one student while the others, though physically present, are expected to be engaged in some other activity. Very little is known about the differences among these three instructional modes—public, semiprivate, and private—although common sense would seem to tell us that the educational environment created by each might differ in important ways from those created by the other two. Some of the differences are almost too obvious to bear comment. For example, the amount of direct contact between teacher and student is clearly less in a group lesson than in a private lesson. Further, when a teacher is alone with a student he is not faced with the problems of control and management that frequently absorb a large portion of his energies in a group setting. When a teacher is conducting a private lesson he does not have to worry about whether he is being fair or whether he is neglecting certain students.

In addition to these obvious differences between public and private teaching there are others a shade more subtle. Consider, for example, the postures of teachers and students in the two settings. When working with the classroom group the teacher usually stands while the students sit. Moreover, he tends to stand in front of the class rather than at the side or in the back. In the group setting the teacher and his students are face-to-face most of the time. They confront each other. In private settings, however, the physical arrangements are quite different. There, as in the case of Mark Hopkins and his bench partner, teacher and student usually sit side by side rather than face-to-face. They gaze at a common object of study rather than at each other. Because of the physical proximity in these private and semiprivate settings the teacher is likely to speak in lower tones than is normal when the whole class is present. Anyone who has done any observing in a classroom knows how frustrating it is to be unable to hear the conversations that take place between teacher and students in these private sessions.

Another effect of the physical proximity between teacher and student in the private and semiprivate settings is that each participant becomes more aware of the physiognomic details of the other. During visits to elementary classrooms I have also noted that there is often a "laying on of hands" during these tête-à-tête sessions. The teacher will often pat a child on the head, or

lay a hand on his shoulder, or fix a wrinkled collar. My impression is that teachers are also more pleasant—they laugh and smile more frequently—when working individually with students. There is, then, a much greater sense of physical and psychological intimacy between teacher and student during these sessions than is true in the situation when the teacher is responding to the class as a group.

The chief difference between the private and the semi-private situations seems to be in the number of interruptions that occur in the latter. When a teacher attempts to perform individual instruction with other students present he often must interrupt what he is doing to respond to a request from some other student or to deal with some violation of expected behavior. A common technique of seasoned teachers is to survey the class periodically while doing private tutoring. These very quick scannings—they often require less than two seconds—are frequently detected by would-be offenders who, as a result, keep their behavior in line with the teacher's expectations.

Although it is not generally thought of in these terms, when a teacher and a group of students are working together all of the participants are, in a sense, performers. Everything the teacher says and does, even when it is directed toward a particular student, is witnessed by others, and the same is true for every student participant. Each time a student says something he is showing the teacher and an audience of his peers what kind of a person he is. The eagerness with which younger students volunteer answers to the teacher's questions (with frantically waving hands) leaves little doubt that powerful motives are at work, among them being the desire to display intellectual strength or, more crudely, to "show off" in front of the teacher and fellow students.

In short, behavior whose success depends in large measure upon audience response—this would include attempts at humor, social ridicule, histrionics, and the like—would probably occur with much greater frequency when the whole class is present than when teacher and student are tucked away in a corner somewhere.

The distinctions being drawn here among private, semi-private, and public instruction are not intended to imply that one form is superior to the others, even though certain skills, such

as playing the piano, are taught almost exclusively under one of these conditions and not another. Rather, the point is simply that qualitative differences among these three teaching arrangements are worthy of more attention than they have received to date from educational researchers.

These differences have a bearing on questions as diverse as, What is the best class size? and, What can learning theory contribute to teaching practice? The class size question, which is a perennial favorite of school administrators, typically is approached by comparing the achievement of students in classes of, say, 25 or 30 with the achievement in classes of 50 or 100 students. The results, as everyone here knows, are rather ambiguous. Such slight differences as there are show a general tendency to favor the smaller classes, though hardly enough to serve as the basis of important administrative decisions. But perhaps the size of the units being compared is too narrowly restricted by administrative interests and other practical considerations. The distinctions being made here call attention to the striking qualitative differences in the teacher's work that occur when the second student enters the room. What if the important break in class size occurs when the number of students rises from one to two? Obviously we need to know much more than we do at present about what happens as we move in small steps from the single student, to the very small group, to the typical class, to the lecture hall.

In this regard, it is interesting to speculate on the fact that most of the organized knowledge called learning theory has been obtained under conditions of private instruction. Although he might wince at the appellation, the learning theorist is a private tutor par excellence. Rarely if ever does he deal with a group—a flock of pigeons, or a tribe of monkeys. Imagine his horror if faced with a pack of rats to instruct in bar-pressing! In his recent book, *Conditions of Learning*, Robert Gagné comments:

> Instructing is an activity that is at the heart of the educational process. It is extremely difficult to do well with a group of students. It is easier to accomplish under the rare conditions in which a single teacher communicates with a single student (p. 27).

The learning theorist is justified, I suppose, in giving most of his subjects busy work while he concentrates on one creature at

a time. But the things he learns by following this procedure are of limited usefulness to the classroom teacher, one of whom described her job to me as that of being "master of a twenty-five ring circus." It is of course no accident that many of the psychologists who are now turning to the classroom have brought with them their teaching machines, electronic typewriters, and cathode tubes—equipment designed to study private, rather than semiprivate or public, instruction.

Perhaps, as the current wave of interest in computerized and programed instruction would seem to suggest, we can learn all there is to know about teaching by analyzing what happens under conditions of mechanized tutoring and private study, but I seriously doubt it.

A third aspect of teaching that deserves more attention than it has received to date concerns the changes that take place in a classroom over a period of time. Educational researchers, as a group, tend to hit and run. Our visits usually come before and after rather than during the events in which we claim to be interested. Moreover, even when our intent is to observe the teaching process we tend to confine our observations to the middle stages of a class's life cycle. By the time we enter the classroom the teacher and his students have come to know each other rather well; methods of daily organization and operation have become stabilized. Nor is this the end of the typical observer's sampling bias. Even during these more stable periods, after social roles, rituals, and interaction patterns have become well established, we typically keep our eyes closed or our tape recorder unplugged until the students have settled themselves down to business and the teacher stands in front of the room with chalk in hand. Now begins the moment of truth. All else was merely background noise. Or was it?

As was pointed out earlier, there is some logic to these research customs. If the teacher's intent is to induce beneficial change in students, the sessions in which the class is really wrestling with subject matter surely seem more relevant for understanding the process of teaching than do those in which teachers and students are just getting to know each other. Moreover, within a single class session the middle 10 minutes of the period look as if they would contain more information about the

teaching process than would the disorder and confusion that take place just before and after the bell. There is, then, something logical about the typical observer's sampling bias. It makes sense. But it does this at the expense of ignoring the psychological reality of the classroom.

The first day of school, as an instance, is different from all others. It is then that initial impressions are formed and the foundations of enduring attitudes established. During these first few hours in the classroom both students and teachers are busy sizing each other up. Students are trying to decide whether their new teacher will be as good or as bad as the last; teachers are trying to decide whether this will be an easy or a difficult class to handle. In the halls and the teachers' lounge on that first day personal gossip, of an evaluative sort, is at a peak. Many hours during those September mornings and afternoons are spent on administrative detail. Rules are defined, expectations are set, overviews are given. During this get-acquainted period discipline problems are almost nonexistent. Students tend to be on good behavior, and the bench in the principal's office remains empty. In other words, when a situation is full of novelty for all participants their behavior is likely to be quite different from that which will occur when the surroundings have become familiar. Many teachers understand the significance of this honeymoon period and try to take advantage of it by attempting to arouse the students' interest to a level that will carry them through some of the more pedestrian sessions that are certain to lie ahead.

An example of how the interpretation of classroom events can become difficult when the observer enters in the middle of the show, as it were, was given to me by a friend who had his college students visit schools as part of a course in educational psychology. On one occasion he took a group of students in the middle of the year to observe two teachers; one had the reputation of maintaining a well-run classroom, and the other had the opposite reputation. Sure enough, when the college students arrived the pupils in the first room were hard at work and in the second room they were creating quite a disorder. But the mystery was that the teacher in the well-behaved room did not seem to be doing anything that would explain the good behavior of his students. In fact, he seemed to be going about his work in

much the same way as was the teacher with the unruly class. My friend and his students were puzzled by what they saw, or, more accurately, by what they failed to see.

Of course it is possible that the one room just happened to have a group of well-behaved students in it, and the other a group of troublemakers. But this possibility would hardly explain the fact that these two teachers had the reputation of being consistent in their classroom styles. It is also possible that the students (and their instructor) just didn't know what to look for. Perhaps if they had filmed the sessions and had reexamined them thoroughly using observational categories as subtle as some of those being developed by Jack Kounin in his studies of teacher control techniques, the expected differences would have appeared. Perhaps the effect of the observers was powerful enough to eliminate differences that might have appeared under more normal conditions. Perhaps the observers just happened to come on the wrong day.

There are several other post hoc explanations that might be called upon to deal with the lack of differences, and as he related his experience to me my friend called attention to many of them. The one he did not mention was the possibility that the differences in the students' behavior resulted not from what the two teachers were doing at the time but rather from what they had done at some earlier time. It is indeed possible that if the observers had been in these two classrooms in the first few days of school they would have seen striking differences in the teachers' behavior.

Once expectations have become established and rules understood they tend to operate invisibly. Only violations produce reactions on the part of authorities; compliance rarely does. If we want to understand the forces that combine to produce a smoothly running classroom we cannot afford to limit our visits to the periods during which the classroom is running smoothly.

From one point of view the message contained in all that has been said so far is really quite simple. I have tried to show that much can be learned about teaching by poking around in the corners of the classroom, as it were, and by sticking around after the dismissal bell has rung. Indeed, if we were to do more than that; if, in addition to staying for longer periods in the classroom, educational researchers were to follow teachers and students out

onto the playground, or into the library, or into the teachers' lounge, there's no telling how many of our favorite notions about the teaching process would have to be revised.

Our present knowledge of what goes on in the classroom resembles in many ways the traveler's impressions of a foreign country obtained by taking a one-hour bus ride through its major city. Although we may not take kindly to the comparison, it seems to be true that educational researchers have tended to be tourists in the classroom. Of course no one can expect us to become natives; those days are gone forever. But we can ask that the tourist's knowledge be extended and supplemented through more intensive and prolonged studies of classroom culture.

The admonition to stay around and look is not new. In fact, it is old advice, and repeating it makes me feel uneasy, even though I believe in its essential soundness. Part of my uneasiness stems from the fact that I'm weary, as I'm sure you all are, of hearing educational researchers tell other educational researchers what problems should be studied or what techniques should be used. This kind of advice is rarely taken seriously, and in education, as elsewhere, those who talk the most about how research should be done frequently turn out to be people who have not yet done their share. Therefore, I would like to abandon the stance of the proselytizer and consider instead what might happen if we were to alter some of our conventional formulations, including some of our root metaphors, of teaching. Here, as before, my musings are admittedly speculative, although they have arisen largely in response to what I have seen in elementary school classrooms.

At present the dominant *geist* is to view teaching as though the teacher's task were principally to produce specific changes within the student; as though, in other words, there were an intimate and direct relation between teaching and learning. Yet when we try to use evidence of learning as a measure of good teaching the results are discouraging, to say the least. Here again, we seem to have allowed our logical sense to interfere with our psychological sensitivity.

At least in the elementary school classrooms I have visited (and for the most part these have been located in so-called advantaged schools), the moments during which the teacher is

directly involved in the business of bringing about desired changes in the students' behavior are relatively few. More and more I have come to think of the teacher's work as consisting primarily of making some kind of an educated guess about what would be a beneficial activity for a student or a group of students and then doing whatever is necessary to see that the participants remain involved in that activity. The teacher's goal, in other words, is student involvement rather than student learning. It is true, of course, that the teacher hopes the involvement will result in certain beneficial changes in the students, but learning is in this sense a by-product or a secondary goal rather than the thing about which the teacher is most directly concerned. Furthermore, as I examine my own experience as a college instructor (during periods of preactive teaching) I find that my concern with student learning (in the formal sense of the term) is indirect at best.

Last year at Chicago we began to collect interviews with elementary teachers who have been nominated as outstanding by superintendents and principals. We're still in the process of analyzing these interviews, but one finding has emerged quite clearly: the teacher's own measure of how well he is doing in the classroom is the minute-by-minute evidence of his students' involvement in the task at hand. In this connection it also seems that as a group teachers are much more interested in whether students are trying to learn than in whether they are learning. Informal eavesdropping has convinced me that the problems teachers discuss in the teachers' lounge are not those of how to assess the attainment of a particular objective. Rather, they talk about difficult students, parents, and principals and their strategies for dealing with them. In this regard, they seem more concerned about reaching a student than about teaching him. Underlying much of this shoptalk is the central concern of keeping students involved in an activity that the teacher hopes will benefit them.

If we allow ourselves to toy with the consequences of such a conception we must ultimately face the possibility that most of the changes we have come to think of as "classroom learning" typically may not occur in the presence of a teacher. Perhaps it is during seatwork and homework sessions and other forms of solitary study that the major forms of any learning are laid down.

The teacher's chief contribution to this outcome may be that of choosing the solitary activity that he thinks will do the most good and then seeing to it that students remain involved. Of course, the task of keeping students involved may entail explanation, demonstration, definition, and other "logical" operations—operations that have come to be thought of as the heart of teaching. But it is also quite possible that the teacher might perform this vital function by doing nothing more than wandering around the room while the students are involved in seatwork. To argue that he is not teaching at that moment is to be unnecessarily narrow in our definition of the phenomenon.

Once we have loosened the conceptual bonds that have traditionally linked the teacher's work to the details of producing behavioral change, the effects might be felt in many different areas. Take, as an instance, questions of curriculum construction. So long as we think of the teacher as being personally and intimately involved in producing specific changes in students' behavior it is reasonable to admonish the teacher to define his objectives behaviorally. Obviously if he knows what changes he expects to produce, the chances of his producing them are greater. But is this truly so? Do so-called "good" teachers really take this kind of advice seriously? Not in my experience. Rather, they choose an activity, such as a book to read or a topic to discuss, on the basis of its overall relevance to the subject matter under consideration. What Johnny "gets" from the activity may be quite different from what Billy "gets." And the teacher may be happy so long as each of them gets "something" out of it. The success of the activity is measured not so much by hard-nosed evidence of behavioral change as by the more fleeting and subjective evidence of attention, enthusiasm, and involvement on the part of the students.

Curriculum workers, particularly those of the Tyler-rationale persuasion, may not like this description; and it is bound to upset many test makers. But in the field of the curriculum, as elsewhere, it is probable that marked adjustments would have to be made if there were a shift of concern from the way teaching ought to be to the way teaching is.

A year or so ago I came across the following statement made by the famous surgeon, Sir William Osler: "No bubble is so

iridescent or floats longer than that blown by the successful teacher."

At the time Osler's metaphor intrigued me, and it continues to do so because it calls attention to the fragile quality of the psychological condition that is created and maintained by the teacher. Class sessions, like bubbles, tend to be short-lived, and the thin skin of reality that holds them together is easily pierced. Also, after a teaching session is finished, its residue, like that of a burst bubble, is almost invisible.

But we already have an abundance of root metaphors with which to consider the teacher's task, and there is some question about whether we really need another one. During the kindergarten movement the teacher was likened to a gardener tending fragile plants. Educators with more traditional views have compared the teacher with the potter molding the clay of the young mind. The supporters of independent study have likened the teacher's work to that of a guide who helps students chart the unexplored terrain of knowledge. The behaviorists have pictured the teacher as a human engineer, or an intellectual paymaster who shapes behavior through controlling the flow of rewards and punishment. More recently we've been asked to think of the teacher as a hypothesis tester (a junior scientist), or as a decision maker (a junior business executive) collecting data, getting feedback, weighing evidence, and the like. It should come as no surprise, then, that today's classroom observers should have their own metaphors that they find helpful. The recent study by Bellack and Davitz demonstrates the advantage of viewing the teacher as a person who conducts word games in the classroom. I hope I am excused, therefore, if I suggest that there might be some value in thinking of the teacher as a blower of bubbles.

Of course, we know that each of these metaphors is only valuable so long as we remember to treat it as a metaphor. When we begin to believe that the teacher really is a gardener, or potter, or guide, or engineer, or scientist, or blower of bubbles, we're in trouble. At that point we leave ourselves wide open for the living, breathing, nonmetaphorical teacher to reply, "That's not the way teaching is. That's not the way it is at all. Come into my classroom tomorrow and see."

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